Substitute (and signed) copy of recent Action (Paper No. 21. Changes explained below.

DEPARTMENT OF COMMERCE
UNITED STATES OF AMERICA

FAX

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To: Amy E. Mandragouras

08/300,510 1M1-045
(ATTORNEY'S DOCKET NUMBER OR APPLICATION NUMBER)

617-227-5941
(FAX/TELECOPIER NUMBER)

FROM: THOMAS M. CUNNINGHAM, EXAMINER,

ART UNIT 1816

ART UNIT 1816 FAX NUMBER: (703)305-7939

EXAMINER'S OFFICE PHONE NUMBER: (703) 308-3968

Papers related to this application may be submitted to Group 1800 by facsimile transmission. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). FAX machines will be available to receive transmissions 24 hours a day.

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Paper No. 21 erroneously contained sections A, B and D on pages 9 and 10. These have been deleted. Page 9 is now stamped and signed.

1. Claims 103-144 are active.

2. Applicant's election without traverse of the species of method comprising administration of a peptide comprising a T cell epitope recognized by a T cell receptor specific for the protein allergen of the genus Felis, Fel d I and subcutaneous administration of said peptide in Paper No. 20 is acknowledged.

3. Claims 103-144 as they encompass the use of structurally distinct peptides from other allergens or on nonsubcutaneous modes of administration are withdrawn from further consideration by the examiner, 37 CFR 1.142(b) as being drawn to a non-elected species. Election was made **without** traverse in Paper No. 20.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as the invention.

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5. Claim 133 is rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. In claim 133 it is unclear what the metes and bounds of the term "nonimmunogenic" are. The administration of the claimed products and compositions appears to result in a down regulation of the immune system. Does "non-immunogenic" refer to the inability of a particular composition to induce an antibody or cellular immune response? Does this mean that the claimed compositions are also incapable of inducing suppressor T cells, or other suppressive immune phenomena such as high or low zone tolerance, which would be expected to down-regulate antigen-specific immune responses?

6. The following is a quotation of the first paragraph of 35 U.S.C. § 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to

> enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

7. Claim 133 and claims 103-144 as they encompass use of nonimmunogneic peptides are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

A. The peptides used in the claimed methods are "immunogenic" as they induce immune responses in human patients, see e.g. page 23, line 26 of the specification. Thus, the claim limitation in claim 133 to use of "nonimmunogenic" peptides is not adequately supported. Perhaps an alternative term such as "tolerogenic" would be better supported.

8. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section

> 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
>
> Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

10. Claims 103-144 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Sehon et al., J. Allergy Clin. Immunol. 64:242-250 (1979), Michael et al, U.S. patent 4,338,297 (issued 1982) or Litwin et al., Clin. Exp. Allergy 21:457-465 (1991) or Kuo et al., U.S. patent 5,328,991 (filed 1991). The claims are

drawn to methods comprising the subcutaneous therapeutic use of peptides comprising T cell epitopes of the Fel d I antigen.

Sehon et al. teach a variety of methods of making tolerogens from allergens and using such tolerogens to induce tolerance to particular allergens. Michael et al. teach how to make and use proteolytic fragments of pollen allergens to desensitize subjects to allergy. Litwin et al. teach how to make and use immunosuppressive peptide fragments of allergens to treat allergy. Kuo et al., see abstract and claims, teach modified Fel d I antigen and its use for inducing tolerance in cat allergic subjects.

It would have been prima facie obvious to one of ordinary skill in the art to use peptides comprising immunogenic determinants of the Fel d I antigen to induce tolerance or anergy in patients exposed to the Fel d I allergen. Routine optimization of the dosage and mode of administration of the instant compositions fall within the ordinary skill of the art as evidenced by the cited references. Thus, claims 103-144 are prima facie obvious over the cited prior art.

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--The Applicant's arguments on page 9 of the response that the claimed peptide has "a defined sequence of amino acid residues" have been considered, but are not persuasive, because the claim language is not limited to particular amino acid sequences, but is functionally described.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for response to this final action is set to expire THREE MONTHS from the date of this action. In the event a first response is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event will the statutory

period for response expire later than SIX MONTHS from the date of this final action.

11. Papers related to this application may be submitted to Group 1800 by facsimile transmission. The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). Papers should be faxed to Thomas Cunningham, Art Unit 1816 and should be marked either "OFFICIAL" for entry into the prosecution history or "DRAFT" for consideration by the Examiner without entry. The Art Unit 1816 FAX telephone number is (703) 305-7939. FAX machines will be available to receive transmissions 24 hours a day.

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas M. Cunningham, Ph.D, J.D. whose telephone number is (703) 308-3968. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0196.

TC

THOMAS M. CUNNINGHAM
PRIMARY EXAMINER
GROUP 1800

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UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, DC 20231

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR		ATTORNEY DOCKET NO.
08/300,510	09/02/94	GEFTER	M	092.0US

18M1/1210

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EXAMINER	
CUNNINGHAM, T	

ART UNIT	PAPER NUMBER
1816	

DATE MAILED: 12/10/96

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

☆U.S.GOVERNMENT PRINTING OFFICE 1995-319-826

Office Action Summary	Application No. 08/300,510	Applicant(s) Gefter et al.
	Examiner Thomas M. Cunningham	Group Art Unit 1816

☒ Responsive to communication(s) filed on *Aug 13, 1996* .

☒ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) *103-144* is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *103-144* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____ .

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____ .

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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PRIMARY EXAMINER
GROUP 1800

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A. In claims 107 and 124-126 it is unclear what encompasses a "T cell stimulation index". Is this term broadly defined by enhancement of any T-cell associated functional response, e.g. lymphokine release, cytotoxicity as measured by chromium release, T cell proliferation, acidification rate of culture medium, or suppressor activity? Is it limited to a particular assay?

B. In claims 110, 112, and 115-119 it is unclear how the term "purity" is determined. Does this indicate purity based on weight (e.g. 97% of solids are the desired peptide), purity based

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on molar concentration of peptide. Does this term apply only to peptides present and not to other excipient or non-peptide contaminants? Does this term exclude peptides which have minor variations in sequences from the specified peptide, e.g. peptides having deletions of residues that don't affect the T cell epitope?

D. In claims 139-144 it is unclear by what standard one would measure "improvement". E.g. level of mucous secretion, subjective complaints by patients, allergen recovery from nasal mucosa.